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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/821,410	03/29/2001	Rabah S. Hamdi	H052617.1077US0	3679
1200	7590	10/04/2004	EXAMINER	
AKIN, GUMP, STRAUSS, HAUER & FELD 1111 LOUISIANA STREET 44TH FLOOR HOUSTON, TX 77002			TSE, YOUNG TOI	
			ART UNIT	PAPER NUMBER
			2637	

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/821,410

Applicant(s)

HAMDI, RABAH S.

Examiner

YOUNG T. TSE

Art Unit

2637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>05 July 2001</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to because the block pertaining elements (59a and 59b) in Figure 3 and element (60) in Figure 4 need to have descriptive label, in conformance with 37 CFR 1.84(n) and 1.84(o). For example, a descriptive label of "FIRMWARE" should be inserted into Figure 4 to properly describe element (60). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 2-3, 5, 17, 20-22, 35-36, 43, and 47-50 are objected to because of the following informalities:

In lines 1-2 of claims 2-3, 5, 20-22 and 47-48; line 2 of claims 35 and 49; and lines 2-3 of claims 36 and 50; the phrase "the impulse response" should be "the impulse response of the channel".

In claim 17, lines 2-3, "an estimated impulse response" should be "the estimated impulse response" for clarity.

In claim 43, lines 1-2, "a communications system" should be "the communications system".

Appropriate correction is required.

Double Patenting

3. Claim 34 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 32. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-52 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification seems not use the same language as recited in the claims to describe the operation of the disclosure of the drawings to enable a person skill in the art to understand the present invention.

For example, claim 1 recites "obtaining an output quantity of the channel", "computing a known quantity from the training sequence", and "decoupling the training sequence from the output quantity" and claim 7 recites "operating the known quantity of the output quantity".

The specification seems not mention what is the output quantity of the channel and how to obtain the output quantity of the channel.

The specification also fails to mention what is the known quantity from the training sequence. If it is already known quantity, why need the computation?

Since claim 1 is a method claim, how to decoupling the training sequence from the output quantity?

Claim 16 recites "convolving ... from a computed output signal of the channel" and claim 19 recites "decoupling the training sequence from the output signal".

The specification seems not mention which element(s) of the disclosure of the drawings provides the computed output signal of the channel and the output signal.

Since claim 19 is a method claim, how to decoupling the training sequence from the output signal?

Also see claims 26 and 39 which use the similar language as mentioned in claims 1 and 16 above.

The specification fails to mention that " \bar{X} is the Hermitian of X " as recited in claims 9, 17 and 46.

Claim 26 is a single means claim since it recites a system comprising a processor only. A single means claim, i.e., where a means recitation does not appear in combination with another recited element of means, is subject to an undue breadth rejection under 35 U.S.C. 112, first paragraph. In re Hyatt, 708 F.2d 712, 714-715, 218 USPQ 195, 197 (Fed. Cir. 1983) (A single means claim which covered every conceivable means for achieving the stated purpose was held nonenabling for the scope of the claim because the specification disclosed at most only those means known to the inventor). When claims depend on a recited property, a fact situation comparable to Hyatt is possible, where the claim covers every conceivable structure (means) for achieving the stated property (result) while the specification discloses at most only those known to the inventor. See MPEP 2164.08(a).

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 1-52 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1 (lines 4, 5, 6 and 9); claim 2 (line 2); claim 12 (line 2); claim 16 (lines 5 (both occurrences), 6-7, 7 and 9); claim 17 (line 3); claim 18 (line 2); claim 19 (lines 3 and 4); claim 20 (line 2); claim 26 (lines 5, 6, 7, and 10); claim 29 (line 2); claim 32 (line 2); claim 33 (line 2); claim 34 (line 2); claim 35 (line 2); claim 36 (line 2); claim 39 (lines 4, 5, 7, 8, and 11); claim 42 (line 2); claim 45 (line 2); claim 46 (line 2); claim 49 (line 2); and claim 50 (line 2); the phrases "the channel" and "the transmission media channel" both lack antecedent basis since the preamble of claims 1, 16, 26 and 39 recites "transmission media channel characteristics".

In claim 6, line 2, the phrase "standard convergence techniques" is vague and indefinite, It needs to be more specific exactly what are the techniques. Also see claim 21.

Claim 10 is not understood why the computation of the estimate of the impulse response of the channel is hardware implement since "computing" is considered a software implement as recited in claim 11. Also see claim 47.

In claim 12, line 2, the phrase "from received signals from the channel" is not understood. Also see claims 36 and 50.

In line 1 of claims 37-38 and 50-51, "the filter" lacks antecedent basis.

Conclusion

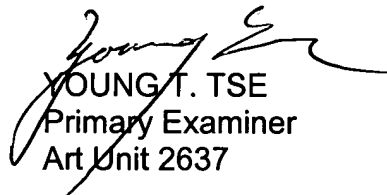
8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

References Seshadri, Fertner, Huszar, Arad et al., and Stenstrom et al. are related to a communications system having a receiver circuit for receiving a training sequence from a transmitter circuit through a transmission media having channel characteristics to minimize the computational load and reduce the overall power consumption in the receiver circuit by adjusting the number of taps used in a filter or equalizer.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOUNG T. TSE whose telephone number is (571) 272-3051. The examiner can normally be reached on Monday and Wednesday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


YOUNG T. TSE
Primary Examiner
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